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A NEW SYSTEM
OF
TREATING AND FIXING
ARTIFICIAL TEETH.

THE ART TO PREVENT THE LOSS OF
THE TEETH,

WITH INSTRUCTIONS CALCULATED TO ENABLE HEADS OF FAMILIES TO ADOPT THE
AUTHOR'S PRACTICE OF TREATING AND PRESERVING THE TEETH.

BY HER MAJESTY'S ROYAL LETTERS PATENT, THE VULCANITE CORAL
SUCTION PALATES, AS A BASE FOR ARTIFICIAL TEETH AND
GUMS, THE GREATEST INVENTION IN DENTISTRY FOR
AIDING THE POWERS OF MASTICATION
AND ARTICULATION.

THIRD EDITION.

By FREDERICK A. ESKELL, SURGEON DENTIST,

No. 2, ST. PETER'S SQUARE, MANCHESTER.

"He who pays no attention to his Teeth, by this single neglect betrays vulgar
sentiments."—*Lavater*.

MANCHESTER:
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P R E F A C E .

IT need not be concealed, that, in every profession where prescriptions and operations which relate to disease, disorganisation, or decay of the body are used, people are more exposed to imposition and the bunglings of the ignorant, than in any other matter whatever. It is enough for the Author to know, as he does from his own experience, that people are often improperly served.

In reference to the present publication, the Author has merely to observe, that it was suggested, partly by the many explanations he was called upon daily to afford his patients. Not having the time at his disposal, and, encouraged by the rapid sale of two editions of his prior works, and by the approbation of the most eminent professional men in Manchester and vicinity, the Author has ventured to extend his observations. Having made several improvements, which he deems of great importance,

he became desirous of affording the public an opportunity of judging of the advantages to be derived by adopting his plan. For this reason he has concisely endeavoured to make the subject intelligible to those whose avocations do not give them an opportunity of becoming acquainted with the operations of Dentistry. He has abstained as much as possible from the use of technicalities, a practice to be recommended in all cases where the wish is to diffuse useful information to the public in general.

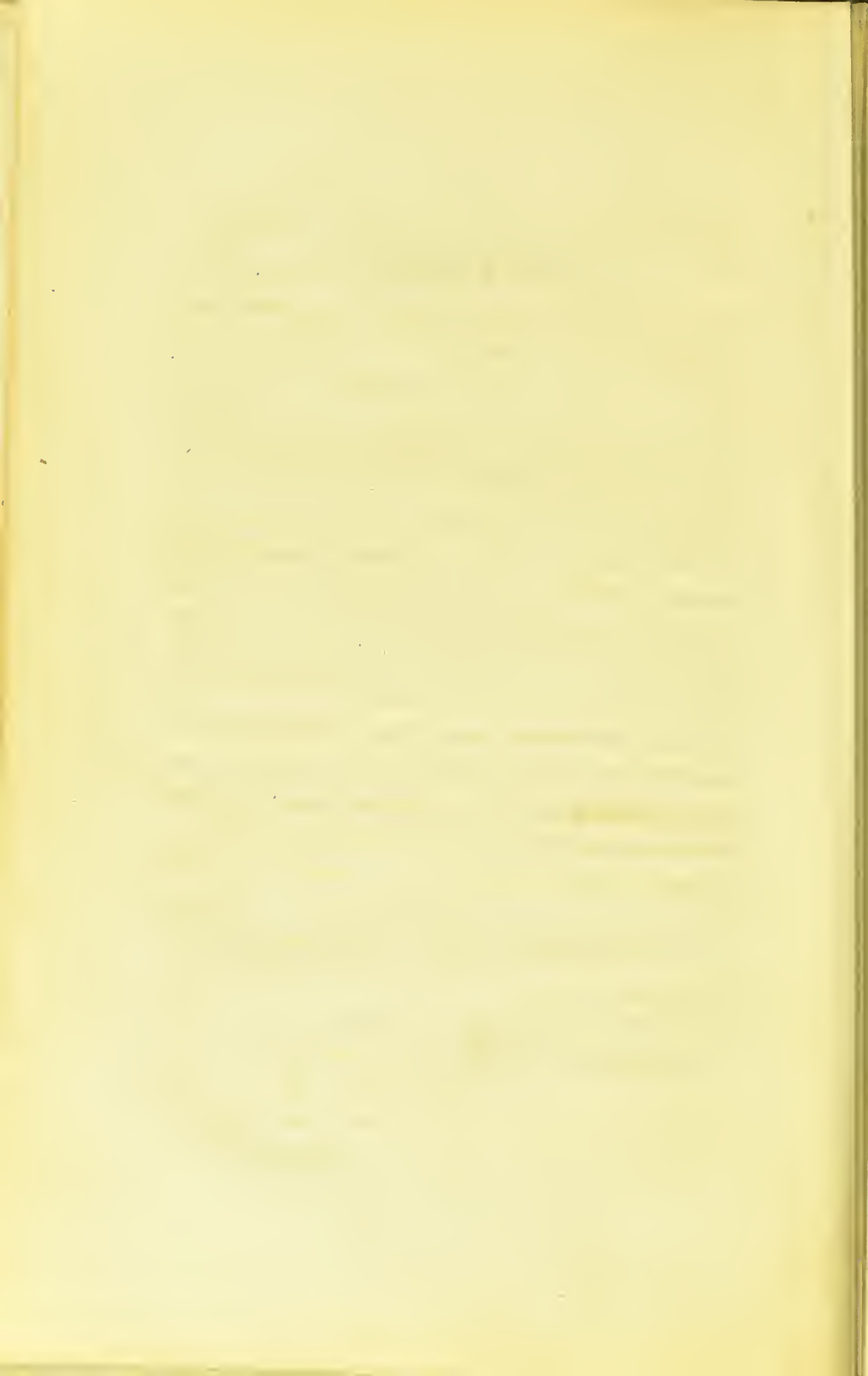
In conclusion, the Author hopes that this work will be a useful compendium of the most essential points of Dentistry, as much so, indeed, as an abridged work of this description will admit of, namely, "A GUIDE TO PREVENT THE LOSS OF THE TEETH," emanating from many years' experience and successful practice in Manchester.

FRED. A. ESKELL.

2, St. Peter's Square,
Manchester.

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ESKELL ON THE TEETH.

IMPORTANCE OF THE TEETH.

THE mouth, whether we regard its beauty or its utility, is one of the principal portions of the human subject; around it the smiles are collected; and it is to its appendages that are connected the muscles which give to man those peculiar expressions and movements of feature that distinguish him from all other animals.

Upon its form are stamped no uncertain indication of the fixed character of the individual; and the variations of it tell the changes and intensities of every passion.

It is also the seat of the voice—man's chosen and peculiar exercise—that which enables him to combine with, to instruct or to command his fellows, and of which the proper and perfect exercise has ever been regarded as the most noble and most powerful of his endowments.

The mouth is also the receptacle for the

nourishment of the body, and the apparatus from which that nourishment receives the first stage of its preparation. It is, in fact, the part, from the disease or decay of which man feels the severest privations, and the only seat of the senses which is indispensable to existence. Consisting of more parts than any of the others, it is more liable to derangement and disease; and having some of those parts in more severe and frequent exercise, it is more liable to partial mutilation.

PRESERVATION OF THE TEETH.

The discolouration or loss of the teeth, and the wasting away of the gums, occasion not only an inconvenience, but a deformity exceedingly vexatious to the patient.

The ears may become deaf, without any change of their external structure; the eyes may become dim, or even sightless, and lose little of their external lustre; but if the teeth are discoloured, a diseased appearance is given to the whole face; and if the teeth are gone, the whole expression of the countenance is changed

—it seems a ruin—the wreck, the mockery, the caricature of its former self.

Many persons who have not been in the habit of attending to their teeth, and who have been long accustomed to see them discoloured, are apt to imagine they have become injured beyond recovery.

This is, in many cases, an entirely erroneous idea; it is not the surface of their teeth which they have been accustomed to see, but a concretion which is constantly forming, and which, from its having been suffered to accumulate, has, to a great degree, concealed the teeth. When this is once removed, which may be easily done, the teeth will immediately be seen in a greatly improved state, and of their natural colour.

And here it may be proper to remark on the practice of those who seem to have contracted a determined habit of neglecting their teeth, and who appear, if indeed they think at all on the subject, as if they considered the state of their teeth as not in any manner influencing their personal appearance; whereas, almost every one who is accustomed to observe is aware there is scarcely a greater personal recommendation than clean teeth, and scarcely an occasion of more universal and involuntary aversion than the contrary. Did such persons, however, perceive

the natural consequences of such neglect, they would, in all probability, speedily adopt an opposite course. They are these:—First, extensive inflammation, indicating the unhealthy state of the mouth generally; and, secondly, a gradual loosening of the teeth, which frequently ends in the successive loss of the whole of them, the accumulation insinuating itself by degrees between the teeth and the gums, and thus destroying that connexion which is necessary to their support.

Whenever this concretion has been suffered to accumulate, and it will be found in most cases where the regular cleaning of the teeth is omitted, scaling the teeth should be immediately, and in the first instance, resorted to. It will be in vain to expect that without this any cleaning can bring back the teeth to a proper state, but with it the best results may be expected.

Many persons, from their extreme sensitiveness, are reluctant to adopt this method; and, entirely from the fear of having to undergo what they have been accustomed to consider an operation, continue to deprive themselves of the comfort of clean teeth, and to incur the hazard of perhaps becoming almost toothless at a comparatively early age. This is a totally groundless fear; the cleaning the teeth with instruments

adapted to the purpose, if skilfully performed, needs occasion no pain which the most delicate person would in the least regard, and will afford immediate and permanent pleasure ; so much so, that those who have once experienced it will need no argument to induce them at any time to repeat it, in case it should happen to become in any degree necessary. It will, however, require professional aid, and care should be taken in removing it.

By due attention to the teeth the gums also are more likely to preserve a healthy tone ; and many appearances which are taken for scurvy and other diseases may be prevented altogether.

Healthy gums have a pale, clear, hardy appearance ; they adhere firmly to the necks of the teeth, and they do not easily bleed. Unhealthy gums, on the contrary, forsake the teeth, bleed readily on every occasion, and cause the sensation of tooth-ache whenever they are exposed to any change in the temperature of the solids or liquids subjected to them, or even of the air. When it is known that scaling and stopping the teeth, scarifying the gums, and ordinary attention to cleanliness will, in general, prevent these evils, the Dentist will be in greater requisition, and the public will experience less pain.

TOOTH-ACHE.

In cases of tooth-ache arising from cold, particular attention should be paid to keep the feet warm and dry : not only are damp and cold feet often the cause of tooth-ache, but of many more serious maladies. For this reason, to keep the feet warm by worsted socks or stockings, and dry by moveable inner soles, which may be exposed to the fire, is one of the most important rules which can be laid down on the subject of dress as affecting this complaint, or, indeed, the health in general.

When disease has proceeded so far as to have occasioned the actual decay of the tooth, it will then be desirable to inspect it, in order to ascertain whether it is possible to arrest its progress by stopping. Provided it is done with a suitable substance, and in a proper manner, teeth may be often rendered by this means serviceable for years for the purposes of mastication, which would otherwise have proved a continual source of pain and uneasiness, or perhaps have been prematurely lost. And as bodily health is preserved by proper exercise in the open air, so the teeth, by being acted

on by proper food, are kept in a wholesome state.

Every part of a tooth that has lost its clear bright polish, may be regarded as covered with some extraneous matter, which ought to be removed. When this is not attended to, it continues to increase, and, descending between the teeth and gums, attaches itself to the sockets, and there accumulates to so great an extent as to separate the gums from the teeth, while it frequently presses so much upon the sockets as to induce absorption of their substance; and, acting as a lever, raises the teeth, and expels them altogether.

Thus the bad effects ascribed to natural causes may proceed from carelessness, which a little attention would easily have prevented. The pressure of the tarter may also bring on a disposition in the sockets to fill up; and, in either way, the teeth are equally expelled. Whole sets of teeth may become loose in this way, and even drop out, leaving their astonished possessors under the alarm of some more serious calamity. It must be recollected, however, that in old age the teeth naturally fall, through the decay of the sockets; although there is little reason to doubt that such a crisis is accelerated by inattention or inexperience. The tarter

sometimes increases so much as to occasion gum-boils, swelling of the fangs, what is termed scurvy of the gums, callous thickening of the gums, excrescences, and even cancer.

It is an important fact respecting the teeth, that ninety-nine cases in a hundred of bad teeth are the result of ignorance or carelessness; and that an incredible number of the sufferings of infants, during dentition, are owing to the same causes.

If nature has denied teeth to our early infancy, she has also wisely provided food not requiring them; while, for old age, when equally deprived of them, she has made no corresponding provision. But as nature, when rightly understood, is uniformly found to have perfected her works, it may reasonably be inferred, that this apparent imperfection in the human teeth is greatly owing to man himself. It appears to have been intended that, in old age, man should recur to the food proper for infancy, or that the teeth should continue to perform their functions to the end of life.

It will serve the purpose here to state, that whatever was intended, man does not do all in his power to save his teeth; nor, when they fall, does he recur to such food as his stomach, without their aid, can digest.

If teeth had never been bestowed on man, then, doubtless, the stomach would have been rendered capable of performing its functions without them.

Under every circumstance to which mankind are exposed, this is not the case, however ; and hence it is that we hear of the frequent complaints of people who have passed a certain age, as the want of appetite, head-ache, &c., the never failing concomitants of unoccupied senility.

ARTIFICIAL TEETH.

If the above remarks be just, it follows that every method which has for its object the increase of the enjoyments of that age to which we all look forward with the hope of happiness, must be considered laudable and deserving of encouragement.

If the use of artificial teeth has come in late among the benefits conferred on mankind, that circumstance ought to be ascribed less to their real importance and utility than to the difficulty of doing them justice.

The prejudices existing against artificial teeth are as astonishing as they are unreasonable, and are more extensive than will readily be credited; for the feeling not only pervades the lower and middle classes, but even such of the higher ranks as are of the old school.

The love of a pleasing personal appearance (to which nothing contributes more than a beautiful set of teeth), is a principle implanted in the human heart. The effect is the same, whether these be natural or artificial.

Too much stress, therefore, cannot be laid on every argument in favour of preserving the teeth in a sound state as long as possible; and, when they fall, of having their places properly supplied with artificial ones.

Those, then, who feel that it is proper to restore teeth that are lost, will be gratified in being informed that from a single tooth to a complete set may be supplied, with a more perfect certainty of success than could be practised in any other case, and without the slightest pain or inconvenience, and so constructed that it may be taken out and replaced by the wearer at pleasure.

This is an art which has recently been greatly improved, and has afforded to many persons a degree of comfort which it would have been

impossible for them without it even to have hoped for. It has, in consequence, become a particular object of study, so much so, that there is now scarcely a single instance in which, if skilfully attended to, it cannot be employed so successfully as to reinstate the wearer in the full use of all the most important purposes of the originals. Much of this, however, will depend on the skill of the Dentist.

Much is often said on this subject of the superiority of one mode above another, of which it would be impossible to admit the propriety as a general rule. Different cases will require different treatment; and the skill of the Dentist will be much better employed in considering the peculiarity of each case, and adopting such means as are best calculated to afford ease and comfort to the individual patient.

As is the case in all professions where a considerable degree of skill and great mechanical nicety are required, the productions of a Dentist are very frequently brought into disrepute by the abortive attempts of the unskilful: and it is our wish to convince the public, if words can produce such conviction, that those imperfections and failures belong not to the art itself, but to those who practise it.

As those who have lost teeth have the

strongest reason for setting a high value on those that remain, it should be observed that nothing will tend more to their preservation than immediately supplying the places of those which have been removed. Where this is neglected, the remaining teeth will not be likely to prove of any considerable durability.

When deficiencies of the teeth are not soon supplied, those that are left speedily become loose. Whenever a tooth is lost, therefore, its place should be immediately supplied by another, if only to support and preserve those which remain. Those therefore who have lost their teeth, and as a natural consequence, suffer from indigestion, should certainly consider the replacing them as the first step necessary to regain their former health and comfort.

Also of the faculty of speech, much more may be accomplished than might be considered possible. The importance of the teeth to all, must in this respect be great, but by public speakers it must, of course, be felt most particularly; still it is certain the delivery may not only be restored, but in many cases even improved.

This may indeed be considered as one of the most perfect triumphs of human ingenuity, in obviating the effects of personal privation; if a hand or a foot be lost, the utmost that can be

done, is to imitate some of its actions, while the most important must still be beyond the reach of art. But there is scarcely a single instance in which the uses of the teeth may not be fully restored, and especially in the important particular just mentioned, which is often of more consequence to the possessor, than that of almost any other personal endowment.

THE VULCANITE CORAL SUCTION

PALATES.

As a base for artificial teeth and gums, the Vulcanised Palates are much superior to bone, or, in many cases, gold. They are fixed without wires or springs of any kind, do not require the removal of stumps or give pain in the slightest degree, and wonderfully increase the power of mastication and articulation. The Vulcanite Palates are quite impervious to the acids of the mouth, consequently are durable for a life time.

Mr Eskell invites attention to his chemically-prepared gum-coloured Vulcanite, (so highly recommended by the first medical men in the

kingdom, and also by those who have worn artificial teeth for twenty years), and to the great advantage that his new teeth possess over the old system. Firstly, all sharp edges are avoided. Secondly, a greatly increased freedom of suction with power of speech. Thirdly, a natural elasticity wholly unattainable on the old principle, and a fit perfected with an accuracy the most unerring. Fourthly, by the adhesion and softness of the Vulcanised Palates the greatest support is given to the adjoining teeth, and even loose teeth are held firm by their aid.

Eskell's new improvement is only necessary to be seen to be admired ; and to be worn to be convinced that it is superior to all other methods known in use. This really lovely work of art ensures perfect comfort to the patient, and at the same time imparts to the countenance a youthful appearance till now unattainable.

Mr. Eskell undertakes all cases where others have failed to give satisfaction ; and requires no fee unless a perfect fit is made, useful for all purposes of mastication.

OBSERVATIONS ON THE IMPORTANCE OF
THE TEETH FOR THE PROCESS
OF MASTICATION.

To insist on the importance of the teeth, whether in regard to the functions of digestion and articulation, to which they are so essential, or to personal appearance, in which they are so much concerned, must appear a waste of words, were it not obvious that there are many persons who never give themselves the trouble to think upon the subject ; who seem scarcely aware that they possess teeth at all, while their gross and culpable negligence renders that fact too apparent to their friends and associates.

Mastication is the first process of digestion, and unless it be duly performed, the subsequent processes can never go on properly.

It is a mistaken notion that the mere chopping of the food is all that is required, and that "patent masticators," or any other contrivance, can supply the place of teeth.

By the motion of the maxillary bones in the comminution of food, the salivary glands are compressed, and the saliva, being poured forth

from the ducts, mingles with the food, which is turned about by the tongue until every portion of the mouthful is duly incorporated with the saliva. Then, and not till then, is it properly prepared for deglutition.

So essential is this preparatory process, that the neglect of it is sufficient to occasion dyspepsia; and it is generally found that those who masticate well, digest their meals much better than such persons as are accustomed to eat too quickly.

Dyspeptic patients invariably find soups, stews, and hashes, less easy of digestion than plain solid food, and I think the chief reason of this is, that the former, requiring little mastication, do not sufficiently excite the secretion of saliva.

I need not dwell upon the numberless concomitant evils which may thus owe their origin to imperfect mastication. It is sufficient to know that artificial teeth are now brought to such perfection as to perform this function in a manner little inferior to the natural teeth, and that they may be used with every comfort.

The next point of view in which we are to consider the importance of the teeth, is that of their connection with the grand prerogative of man—the gift of speech. The teeth are abso-

lutely essential to a perfect articulation, and are mainly concerned in the modulation of the voice. Their preservation is, therefore, essential to all persons who do not seclude themselves from society; for what can be more disagreeable than that mumbling which renders conversation a task, and robs it of half its charms; unless, indeed, it be the spluttering in one's face which sometimes accompanies the exclusive favour of a confidential *sotto voce* communication?

To all public speakers, whether in the senate, in the pulpit, at the bar, or on the stage, teeth, real or artificial, are a *sine quâ non*. Without them the graces of eloquence are lost, and the powers of oratory very much diminished.

No person to whom a correct articulation, and a clear impressive delivery are of consequence, can be ignorant of the effect which the loss of teeth has upon the powers of voice, and none I conceive will delay to call in the aid of art; but it would be well if all such persons were impressed with this fact beforehand, as one of the strongest inducements to bestow upon their teeth the necessary care.

As an essential point of beauty, the teeth must ever stand pre-eminent. No regularity of features, no brilliancy of complexion, no sparkling eyes, or silken braids of jetty hair, can

render that lady beautiful who, when she opens her lips (though they be of coral), discloses a set of teeth irregular or discoloured. On the contrary, even homely features and a sallow complexion are embellished and rendered agreeable by a good set of teeth. A mouth large and ill-formed will pass unnoticed, when it contains teeth beautifully white and even.

In short, under every circumstance, good teeth, well kept, will prove a redeeming feature, be the others what they may. Even the sooty African becomes an object of some interest, when he smiles and exhibits a perfect row of white teeth, in strong relief against the ebony of his skin.

On the other hand, the effects of decay, the accumulation of tarter, the blackened and denuded fangs, and the taint of the breath, which is a common concomitant of bad teeth, will invariably prove disgusting and loathsome.

Regular teeth, white, and free from all extraneous matters, are an ornament equally attractive in either sex. Those persons who do not possess this natural advantage, should endeavour, by extreme care and cleanliness, and a timely resort to artificial aid, to remedy the imperfections, and supply the deficiencies of nature, in order that their teeth if not an agree-

able object, may be prevented, as far as possible, from becoming a repulsive one.

According to Cuvier, M. Delaharne, and Mallan, the introduction of Vulcanite Suction Palates for artificial teeth is the greatest invention for the happiness and comfort of the human race, to prolong life, by giving the power of mastication, and within the reach of all classes. A pure material, the greatest of all consequences in an article to be worn in the mouth for a life time, and if executed by a first class mechanical dentist, the teeth ought to be fixed in such a manner as would defy detection by the closest observer.

EXTRACTING TEETH.

The extracting of a tooth is often an operation of nicety, if not of difficulty; this arises from various causes, and from none more frequently than the unfitness of the instrument used, and the inexperience of the operators. On the continent of Europe the profession of a dentist cannot be exercised without submitting to a course of regular study, as in other parts of surgery; a complete knowledge of anatomy is

indispensable, not only to be able to practice, but to prevent the injury of parts which ignorance of that art might render fatal.

It is by no means uncommon for persons to be prevailed upon to have their teeth extracted, even when only slightly decayed, from the fear of their occasioning the decay of others. This is a very mischievous practice, and is entirely founded in error; as long as a tooth can be retained and rendered serviceable, it ought on no account to be removed, as it is only when it becomes painful that it can prove injurious, and the injury will then be confined to itself, and cease on its removal; since on no principle of observation or argument can it be shown that disease is thus propagated from any one tooth to another.

It ought, also, never to be decided upon by the patient's feelings; frequently, from cold or other causes, a painful sensation will be felt in one tooth, which after a few hours will be transferred to another, and if under the first impulse the tooth primarily affected should be removed, the patient may have the mortification of knowing that a tooth has been extracted, which, but for this, might have remained serviceable for years. On this account it is always preferable to rely on an opinion formed from inspection.

CLASSES OF TEETH.

It may not be uninteresting in describing the teeth, to state that the first set of teeth are divided into three classes—incisores, cuspidati, and molares; they are called shedding teeth, from their falling between the seventh and fourteenth year, at which period they give place to the permanent or adult teeth; of the adult teeth there is a fourth class, the biscuspides, so called from their double points; and also a fifth, the dentes sapientiæ, or wisdom teeth.

The regular complement of permanent teeth is thirty-two, although they sometimes exceed that number, and at others come short of it.

While the shedding teeth appear in their places, and are full grown, their successors, the permanent teeth, are also in their separate cells ready to succeed them. The order and number of the shedding teeth are as follows:—

4 Incisores, incisors, fore teeth, or butter teeth.

2 Cuspidati, canine teeth, or eye teeth.

4 Molares, or grinders.

Those of the permanent teeth in each jaw :—

4 Incisores.

2 Cuspidati.

4 Biscuspides.

6 Molares, of which two are *Dentes Sapientiæ*.

The incisors are the four teeth in the fore part of each jaw; they derive their name from their use in dividing and cutting the food in the manner of a wedge, and have each of them two surfaces which meet in a sharp edge. In the upper jaw they are usually broader and thicker, especially the two middle ones, than those of the under jaw, over which they generally fall, by forming a portion of a large circle.

The cuspidati are the longest of all the teeth. There is one of them on each side of the incisors, so that there are two in each jaw; their fangs differ from those of the incisors only in being much larger. The grinders, of which, including the biscuspides and wisdom teeth, there are ten in each jaw, are so called because they are used for bruising the food.

The eye teeth and incisors have only one fang; but the last three grinders, in the under jaw, have always two fangs, and the same teeth in the upper jaw have three. Sometimes these fangs are divided into two points near their base, and each of these points has, perhaps, been

sometimes considered as a distinct fang; the bicuspidæ, or first two grinders on each side, have, in general, only one fang; the last grinder on each side is that called the wisdom tooth; the grinders usually, although not always, come between the twentieth and thirtieth year,—sometimes they never come at all, or but partially.

The loss of the teeth, at whatever period of life (other than that of the natural shedding of the infantine set) it may happen, is one of the most disfiguring and inconvenient privations to which human nature is subject; and whether it be from a want of care, from man taking his food hotter than the other animals, or from any other cause, it is a decay almost peculiar to the human subject. It is exceedingly general, and different from many other diseases. It increases with the increase of civilization and refinement; indeed, it seems of itself to point at the possibility of artificial restoration, for it is a matter of common observation that the loss of the teeth occurs most frequently, as well as earliest in life among those who can best afford to have them replaced; and among men in their rude and savage state, the teeth are scarcely less durable than they are among the inferior animals; and in civilised society, it may be observed, that the farther any class of persons are removed from

the simplicity of savage life, the more are they subjected to this casualty, although, in other respects, they may be less frequently or severely the victims of disease.

When the teeth become so carious that a cavity is formed into the bony part, three causes materially further the decomposition of the whole, viz., the action of hot and cold liquids, the atmospheric air, and the lodging of particles in the hollow part.

Firstly, the action of liquids on the bone that is softened by disease, must have a tendency to remove the earthy particles of which the tooth is partly composed, besides fluids coming in contact with the highly vascular inflamed membrane that lines the cavity of it, always produces the most exquisite pain.

Secondly, atmospheric air may generate a peculiar acid, by its oxygen mixing with the moisture in the cavity, which increases the morbid action. At all events, the air finding an ingress into the tooth diseased, must assist in its decomposition; at the same time, if its temperature is at the freezing point, it brings on a greater inflammation of the parts, and probably affects the gums and the neighbouring teeth, with very acute and painful sensation.

And, lastly, when particles of food that are

conveyed into the teeth are acted on by both the former causes, there arises a putrefactive formation; much foetid matter is produced, the breath becomes tainted, the caries proceeds to remove the whole bony part of the tooth, the enamel breaks away, and the person, deprived of a useful and ornamental part of the mouth, suffers much pain, and very probably the next teeth have become affected.

These remarks apply particularly to the molares, and it is these teeth that are most affected with an organic predisposition to decay. In families not subject to the attacks of tooth-ache, the grinding surface of the back teeth will be found to be even, and free from furrowed depressions; while, on other the hand, in families that are subject to tooth-ache, the grinding surfaces are deeply furrowed, and rise in irregular and sharp points, to such a degree as to defy every effort to keep them perfectly free from the particles of food, which they retain in mastication. The particles thus retained decay, and give an offensive odour to the breath, often attributed to internal diseases, and they also corrode the enamel at the bottom of the furrows. A disease thus planted will soon take its course, unless it is checked by the hand of the Dentist, and this is easily effected, if attended to before

the nerve comes to be exposed ; and even then, it should not be considered too late to attempt the cure. A tooth ought never to be thrown away upon slight grounds.

One who, with indifference, permits the inroads of disease to gain upon the back teeth, and then gets them extracted to be free from pain, will in a few years lose them all, and the fore teeth of the upper jaw will soon follow. All this can be avoided, although disease may have commenced.

DISEASES OF THE TEETH.

Another great cause of the diseases of the teeth, and which no person altogether escapes, is the collection of what is called tartarous matter. The tarter is secreted from the juices of the mouth, and incrusts the teeth as stalactites do caves. It first attaches itself to the parts of the teeth not exposed to friction in masticating the food, and gradually gaining ground, it covers them in some instances all over ; but this can only take place when a person, in long continued illness, has been unable to masticate solids, from

which it appears that much of the appearance and soundness of the teeth may proceed from the sort of food we use.

It may not be amiss to remark, that when a tooth is very loose from the decay of the gum and sockets, it ought to be removed, as its action on the surrounding parts in mastication will tend to excite inflammation, and induce absorption of the adjacent alveoli and the loss of the teeth, with other diseases to which the gums are liable.

An unfortunate circumstance connected with the diseases of the teeth, which cannot be sufficiently attended to, is that the commencement and progress of decay are so insensible that disease may exist many years, and even the person himself not be aware of it, till it has penetrated to the very centre of the tooth ; but having once reached the cavity, it there commands attention, on account of the severe tooth-ache which it occasions.

TEETH PARASITES.

After careful examination with the microscope, of the matter deposited on the teeth and gums of more than one hundred individuals selected from all classes of society, and in every variety of bodily condition, Mr. Eskell, in nearly every case, has discovered animal and vegetable parasites in great number; in fact, few, very few, are without them to some extent—the great cause of decayed teeth, to all more or less.

Mr. Eskell has proved, that sugar from either cane or beet is injurious to healthy teeth, either by immediate contact with them or by the gas evolved, in its stoppage in the stomach. If a tooth be macerated in a saturated solution of sugar, it becomes gelatinous, and its enamel opaque and spongy, and easily broken. This modification is due, not to the free acid, but to a tendency of sugar to combine with the calcareous basis of the teeth. This the second early cause of destruction of the enamel, occasions the loss of the teeth.

CLEANING THE TEETH.

The teeth of every person ought to be cleaned by a dentist, at least once every twelve months, although a predisposition in the teeth of many persons to collect extraneous matter may require more frequent repetition.

With respect to the tooth powders to be used, those which are of vegetable composition are recommended as the safest. Acids of all descriptions ought to be studiously avoided; they will beautify the teeth for a short time, but waste the enamel and weaken the gums. In some persons, a tooth often becomes diseased and wears totally away, without giving the slightest pain; this may happen from the previous destruction of the nerve, or it may arise from its becoming ossified, as in old age. The first symptom of disease in the teeth is soreness when touched, or when exposed to any external influence. This hint ought always to be attended to, as the removal of extraneous matter, scarification of the gums, or some equally simple operation, if performed early, will generally remove the painful symptom.

FORMATION OF THE TEETH.

The teeth are small bones, fixed in the alveoli of the upper and lower jaws. They are the hardest and whitest bones in the subject. Each tooth may be divided into two parts, viz., its body, or that part which appears above the gums, and its fangs or root, which is fixed in the socket. The boundary between these two, close to the edge of the gum, where there is usually a small circular depression, is called the neck of the tooth. Every tooth is composed of enamel and internal bony matter; the enamel is a very hard and compact substance, becoming gradually thinner as it approaches the neck, where it insensibly terminates.

The bony part of a tooth resembles the other bones in its structure, only it is much harder than the most compact part of bones in general. It composes the inner part of the body and neck, and the whole of the root of the tooth. Each tooth has an inner cavity, which, beginning by a small opening at the point of the fang, becomes larger, and terminates in the body of the tooth; this cavity is supplied with blood-vessels and

nerves, which pass through the small hole in the root. In old people this hole sometimes closes, and the tooth then becomes insensible.

DIFFERENCE IN TEETH.

In all animals the teeth of different classes differ in size and length, often very considerably; and they are separated by intervals, more or less wide; this is particularly the case with the teeth called canine, which are long, prominent, and distinct from the neighbouring teeth; their not projecting beyond the rest, nor being separated from them by any interval, is therefore a very characteristic circumstance in the human structure. The teeth of men are distinguished by being all of one length, and by the circumstance of their being arranged in a uniform, unbroken series. The eye-teeth are a little longer than the others at first, but their sharp points are soon worn down to a level with the rest. Even in the ape—whose masticatory apparatus most nearly resembles that of man—the eye-teeth are longer, often very considerably longer, than the other teeth; and there are intervals of each jaw to

receive the eye-teeth of the other ; the inferior incisors are perpendicular ; the teeth indeed, and in front of the jaw, are placed in the same vertical line. In most animals these teeth slant backwards, and the jaw slopes backwards directly from the alveoli ; so that the full face of our species is found in no animal—not even in the orang outang, where it appears as if the part were cut off.

It is well known how long a peculiarity of countenance sometimes belongs to a distant ancestry, and is continued in the faces of their descendants. Various diseases, in like manner descend in families to posterity. The same thing holds with respect to the diseases of the teeth, and particularly when occasioned by their shape.

In cases where disease of the teeth proceeds from the shape, it commences on the grinding surfaces of the back teeth ; whole families frequently suffer most of the evils arising from decayed teeth, while others never experience the least degree of tooth-ache. Even in the same family, individuals sometimes may be found who lose all their teeth, while those of the rest are exempted from disease ; this may arise from the teeth of some being like those of one parent, and of others like that of the other ; where

both parents have had their teeth affected, the children rarely escape.

But as caries frequently commences between two teeth, and almost always in some part which is not subject to friction in mastication, may not the same cause produce it, as in deeply-furrowed back teeth? — or, may not picking the teeth with a pin, which many practise, particularly young persons, have proved injurious to the teeth by scratching the enamel, which may thus retain particles of food, as in the case of furrowed teeth? The smallest scratch will retain matter enough to lay the foundation of disease in the enamel. Wherever it can be practised, wash the teeth after taking food, which will free them from any little deposit which may have occurred; everything will then have been done that is really necessary, or, indeed, possible, to preserve the teeth.

CHILDREN'S TEETH.

The growth of teeth in children is a point of very great importance. It may, therefore, be proper to make a remark or two in conclusion on that subject. From about the age of six or eight years, children begin to lose their temporary, and acquire their permanent teeth. This is a very important period as to its consequences in the after part of life, and parents can scarcely perform a greater service to the persons of their children than by having their teeth frequently inspected, in order to correct any irregularity while it is possible. At about the age of six to eight years, the temporary teeth begin to become loose, and to give place to the permanent teeth which are to succeed them. The necessity for this admirable provision will be apparent on observation.

On examining the teeth at about this age, it will be seen that a considerable interval has taken place between them, in consequence of the growth and enlargement of the face, and a broader set has become necessary to fill the arch, in which these generally appear, as follows:—The first double teeth; then the two central front teeth above and below, the latter preceding

the former; then the two next on each side, and so on in regular succession, until the whole are completed; though this exact order is not always observed, and irregularities frequently occur which may require the removal of some of the temporary teeth, to prevent the permanent from being thrown into an improper direction. Where this has been neglected, and the permanent teeth have taken a decidedly wrong position, detrimental alike to appearance and articulation, other means must be had recourse to. If, for instance, which is not an uncommon case, one of the upper front teeth should be thrown within the lower, it will be obviously impossible for it to come into its proper place so long as the lower teeth continue to throw it in, and the others out. It is, however, by no means desirable that children's teeth should be removed too early or indiscriminately, for it is certain that this has often produced the very evil it was intended to prevent. Such a practice is not only highly objectionable, on account of its inflicting much unnecessary pain, but also may produce the most injurious consequences to the permanent teeth, both as respects their strength and regularity. All that is necessary to be done is, if required, to assist—never to interfere with—nature, by the gentlest means.

ELIXIR FOR THE MOUTH.

Antiseptic Balsamic, No. 1. R Alcohol of guaiacum, two ounces. Alcohol of compound lavender, one ounce. Tincture of alcoholized cinnamon, tincture of myrrh and of aloes, of each two drachms. Essence of the London mint. Peruvian balsam. Mixed.—*Mons. Dellaban.*

This lotion is for the cure of spongy gums, and is much superior to lancing; a few drops on a tooth brush, when wet, will be found advantageous to the patient.

As to the composition of tooth paste, every one ought to know that paste or powder, mixed with acids, acts chemically and destroys the enamel, and consequently subjects the teeth to early decay, and all gritty substances act mechanically, and waste the enamel in a most rapid manner. A safe medium may be found in the following prescriptions.

ARMENIAN BOLE, forms, like all argillaceous earths, a good tooth powder when mixed with some aromatic.—*Dr. Hoopers.*

TOOTH POWDER.—Good tooth powder may be composed of very fine bark, in powder of the best quality, charcoal, alum, armenian bole, cinnamon, cochlearia, &c., either separately or compounded.—*Dr. J. C. Jerbaux.*

If the constant use of a tooth brush and water, be not sufficient to keep the teeth perfectly clean, a tooth powder or paste may be used, composed of some substance not possessing any chemical property which can act upon the enamel, or of too hard a quality by which it would grind it away; all acids, gritty powders, are injudicious, and prejudicial to the teeth.

A FEW EXTRACTS.

Opinions of the Press.

Frederick A. Eskell, Surgeon Dentist, of 2, St. Peter's Square, Manchester, has invented a new system of fixing teeth, without wires of any kind, combined with the greatest ease, and natural appearance of any that we have ever seen.—*Chronicle, June 14th, 1862.*

We recommend Eskell's splendid contrivances and mechanical ability; for remedying defects of the mouth he stands unrivalled as a mechanical dentist.—*Times, May 27th, 1862.*

For economy, durability, and mechanical ability, we recommend Frederick A. Eskell as one of the most efficient dentists in England, speaking from our own personal knowledge.—*Observer, November, 23rd, 1861.*

Working men will no longer suffer inconvenience when they learn that they can have

a set of teeth from £5. Speaking from experience and observation, we speak authoritatively, and can, with confidence, recommend Mr. Frederick A. Eskell, of Manchester, as an efficient, and talented dentist. — *Stockport Advertiser*, October 4th, 1861.

DENTISTRY.—Eskells, the dentists, have long been household words amongst us—the Eskells are the oldest established dentists in Lancashire, having been in practice three quarters of a century; they naturally possess what is most essential in their profession—a vast amount of practical experience.

Mr. Frederick A. Eskell's mechanical and scientific inventions, some of which he has secured by Her Majesty's Royal Letters Patent, have frequently called forth the especial notice of the *Times*, *Lancet*, and other leading Metropolitan and Provincial Journals of the day. They have elicited the highest eulogiums of the most eminent of the faculty, some of which we have before us, speaking very highly of the Coral Suction Palates, as a base for teeth and gums. These high authorities particularly recommend the vulcanite, as being superior to bone, and also impervious to the acids of the mouth,

a desideratum long wished for.—*Free Press*,
November 23rd, 1861.

We have been favoured with Mr. Eskill's specimens of Vulcanite teeth, and for mechanical contrivance and ability the firm stands second to none in England.—*Mercury*, *April 26th*, 1862.

A FEW LETTERS FROM MEDICAL MEN,

FROM A LARGE COLLECTION.

“ Royal Institution,
“ Manchester, July 18th, 1862.

“ F. ESKELL, Esq.

“ DEAR SIR,

“ In accordance with your request, I beg to state that I can vouch, from personal knowledge, for the excellence of Vulcanised India-Rubber as a fitting for Artificial Teeth. It is clean, light, and agreeable to the mouth, and though it contains an oxide of lead, the process of vulcanising renders this material innocuous. I consider its lightness to be a very great recommendation, because the support which is obtained from the adjoining sound teeth, by gold and other metallic fittings, is often very injurious to the sound teeth, whilst the pressure from the India-rubber is so slight as to have no bad effect of that kind.

“ Trusting that the above will prove satisfactory,

“ I remain, dear Sir,

“ Your obedient servant,

“ F. CRACE CALVERT.”

“Hague, July 14th, 1862,
“Holland.

“DEAR ESKELL,

“Having examined the Vulcanite Base and a gold insertion for artificial teeth, can with pleasure state that it is the most perfect adaption of art with the purest materials ever rendered useful for the mouth, and fit for all purposes, by night and day, without fear of oxidation—a boon long wished for—which I have analysed, and found the combinations as pure as marble, and well calculated to prolong life.

“I am, my dear Friend,

“Yours, sincerely,

“HERR VAN ORDEN,

“M.D.A.C.”

“Edinburgh, May 9th, 1862.

“DEAR SIR,

“I have examined your Vulcanite Palates for teeth interwoven with pure gold, and can speak highly of your method of fixing them, being much superior to any I have ever seen; and the purity of the materials used by you for the mouth being of the greatest importance to the wearer, as oxidation cannot arise therefrom.

“I am, yours truly,

“PROFESSOR BELL, M.D.”



